Digital Signatures

Digitally Signing with MicroStation (Plan Sheets)

In MicroStation, digitally signing a model or file can be used to indicate approval of the design. Another user can then detect the signature, verify the signer's identity, and verify that the design has not been changed since it was signed. Model-specific signatures are displayed graphically in the context of the design. Multiple signatures can be affixed to a single file or model. Hierarchical signing is also supported so that one signature is dependent upon prior signatures. A signature can cover the content of a model or file and all of its references including DGN and DWG references. MicroStation has implemented the digitally signing of individual drawing files with the use of public key infrastructure (PKI) technology (for an explanation of the PKI technology, go to the following Microsoft web page http://www.microsoft.com/technet/archive/windows2000serv/evaluate/featfunc/pkiintro.mspx). Visual verification of the authenticity of the signature is also provided by MicroStation. When a file or any of its referenced files is changed, MicroStation will place an "X" through the graphics that represent the signature. This "X" will show in the printed output with MicroStation printing and with Iplot. MicroStation can digitally sign a model in the file by the use of a signature cell (graphic) or the entire file by applying a file signature that includes all models in the file (not displayed graphically).

Using a Signature Cell

A signature cell is really just a cell with a hidden digital signature attached to it. It is created and managed as a normal cell in a cell library. It is then placed in the model that is being signed. The signature cell can contain raster and/or vector graphics. The cell library containing the signature cell will have digital rights applied to it to only allow access to the file by the owner of the digital signature.

Procedure for creating signature cell

- Open the cell library with MicroStation
- Open the Models dialog
- Navigate to the model (or cell) that you want to add the signature graphic to
- Import the graphic (typically – the scan of the seal or signature) into the model
- Invoke the Digital Signature Tool (Tools>Digital Signatures)
- Sign the cell with a "Hidden Model Signature"
- Select your personal certificate
- The cell is now ready to be used to sign DGN content.

Procedure for signing a DGN file

- Open MicroStation with a design that needs to be signed
- Place a signature cell in the signature block (Tools>Digital Signatures, select Place Signature Cell)
    - Attach the library that was used to store the signature cell
    - Select the cell to place
    - Check the box to include references, if desired
    - Enter purpose and expiry, if desired
    - Check the Dependent Signature box if reliant on other signatures
    - Place the cell

Digitally Signing with Adobe Acrobat (Specifications)

Adobe Acrobat will certify pdf files that are digitally signed with the use of the PKI technology. Simply convert the document to Adobe PDF and then apply a digital signature to it through Acrobat's interface. When the document is opened in Acrobat Professional or Standard, a dialog box appears informing the recipient that the document was certified and whether the signature is valid.